International application No.

PCT/NZ2005/000046

| A.   | CLASSIFICATION OF SUBJECT MATTER   | •  |                        |
|--|--|--|------------------------|
| Int. Cl. 7:  | F04B 43/06, 43/067, 45/053   |  |                        |
| According to   | International Patent Classification (IPC) or to both   | national classification and IPC  |                        |
| B.   | FIELDS SEARCHED  |  |                        |
|  | mentation searched (classification system followed by conder "Electronic databases searched"                                 | lassification symbols)   |                        |
|  | searched other than minimum documentation to the ext 4B 43/06, 43/067  | ent that such documents are included in the fields search.   | hed                    |
|  | base consulted during the international search (name of : F04B 43/06, 43/067, 45/053 with keywords                           |  |                        |
| C.   | DOCUMENTS CONSIDERED TO BE RELEVANT  |  |                        |
| Category*  | Citation of document, with indication, where app   | propriate, of the relevant passages  | Relevant to claim No.  |
|  | US 5669764 A (BEHRINGER et al.) 23 Sep   | otember 1997   | 1 10 16 10             |
| X<br>Y   | The whole document The whole document  |  | 1-13, 16-18<br>14, 15  |
|  |  |  |                        |
| Χ.   | US 4755111 A (COCCHI et al.) 5 July 1988 The whole document  | 3  | 1-13, 16-18            |
|  |  |  |                        |
|  | US 2821930 A (SMITH) 4 February 1958   |  | ,                      |
| X  | The whole document   | ·  | 1-13, 16-18            |
| :  | ·  |  |                        |
|  | US 3955901 A (HAMILTON) 11 May 1976  |  |                        |
| Y  | Column 6, lines 55-61  |  | . 14                   |
|  |  | ·  |                        |
| X Fu   | urther documents are listed in the continuation  | of Box C X See patent family anne  | ex                     |
| "A" documen  | ategories of cited documents: t defining the general state of the art which is "T" la dered to be of particular relevance co | ter document published after the international filing date or pronflict with the application but cited to understand the principle | iority date and not in |
| "E" carlier ap   | ui<br>plication or patent but published on or after the "X" do   | nderlying the invention became the claimed invention cannot cannot be considered to involve an inventive step when the d           | be considered novel    |
| "L" documen  | al<br>t which may throw doubts on priority claim(s) "Y" do   | one perfect of particular relevance; the claimed invention cannot  | be considered to       |
| another c  |  | volve an inventive step when the document is combined with<br>sch documents, such combination being obvious to a person sk         |                        |
| or other n   | neans "&" do   | ocument member of the same patent family   |                        |
|  | published prior to the international filing date<br>han the priority date claimed  |  |                        |
|  | al completion of the international search  | Date of mailing of the international search report   |                        |
| 1 June 2005<br>Name and maili  | ng address of the ISA/AU   | - 8 JUN 2005   | · <del></del>          |
|  | PATENT OFFICE -  | ,  |                        |
| •  | ODEN ACT 2606, AUSTRALIA   | ASANKA PERERA  |                        |
| E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929  Telephone No : (02) 6283 2373 |  |  |                        |

International application No. PCT/NZ2005/000046

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y         | US 3093086 A (ALTOZ et al.) 11 June 1963 Figures 2, 3 and accompanying description | 15                    |
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Information on patent family members

International application No. PCT/NZ2005/000046

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in<br>Search Report |    |          | Pate        | ent Family Member |    |          |
|---|----|----------|-------------|-------------------|----|----------|
| US 5669764                                | AU | 32924/95 | CA          | 21 <i>5</i> 9434  | EP | 0705978  |
| •   | EP | 0822401  | ${ m I\!L}$ | 115327            | JР | 8210256  |
|   | JР | 10132732 | NO          | 953980            | US | 5691486  |
|   | US | 5788927  | US          | 5902096           | US | 5908599  |
|   | US | 5934885  |             |                   |    |          |
| US 4755111                                | AU | 73826/87 | DK          | 293687            | EP | 0250026  |
|   | JP | 62291483 | NO          | 872370            | •  | •        |
| US 2821930                                |    |          |             |                   |    |          |
| US 3955901                                | AU | 74452/74 | BE          | 82 1375           | CA | 1004914  |
|   | DE | 2448490  | DK          | 55 1874           | ĖS | 431237   |
| •   | FR | 2248425  | GB          | 1433758           | JР | 50073205 |
|   | LU | 71163    | NL          | 74 1 3 2 7 5      | SE | 7413346  |
|   | ZA | 7405951  |             |                   |    |          |
| JS 3093086                                |    |          |             |                   |    |          |

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX

# PATENT COOPERATION TREATY PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| Applicant's or agent's file reference 388-14PCT                                      | FOR FURTHER ACTION as  | see Form PCT/ISA/220<br>well as, where applicable, item 5 below.   |
|--|--|--|
| International application No. PCT/NZ2005/000046                                      | International filing date (day/month/year) 18 March 2005   | (Earliest) Priority Date (day/month/year) 18 March 2004  |
| Applicant PRECISION DISPENSING   | SYSTEMS LIMITED et al  |  |
| This international search report has been Article 18. A copy is being transmitted to | prepared by this International Searching Authority of the International Bureau.                              | and is transmitted to the applicant according to   |
| This international search report consists o  | f a total of 4 sheets.  copy of each prior art document cited in this report                                 | t.   |
| 1. Basis of the report   |  |  |
| a. With regard to the language, the i it was filed, unless otherwise indic           | international search was carried out on the basis of cated under this item.                                  | the international application in the language in which   |
| Authority (Rule 23   |  | •  |
|  | de and/or amino acid sequence disclosed in the in  | The second secon |
| Luite of invention is looking  | unsearchable (See Box No. II).   |  |
| 3. Unity of invention is facking.  |  |  |
| the text is approved as subm   | itted by the applicant.  | 1  |
| X the text has been established  | by this Authority to read as follows:  | !  |
|  |  |  |
| A MEMBRANE PUMP  |  |  |
| 5. With regard to the abstract,  |  |  |
| X the text is approved as subm   |  |  |
| the text has been established one month from the date of                             | I, according to Rule 38.2(b), by this Authority as it mailing of this international search report, submit of | t appears in Box No. IV. The applicant may, within comments to this Authority.   |
| 6. With regard to the drawings,  |  |  |
| a. the figure of the drawings to be p  | ublished with the abstract is Figure No. $oldsymbol{1}$  |  |
| X as suggested by the  | e applicant.   | •  |
|  | Authority, because the applicant failed to suggest a   |  |
|  | Authority, because this figure better characterizes  | the invention.   |
| b. none of the figures is to be p  | oublished with the abstract.   |  |

International application No.

## PCT/NZ2005/000046

| Α.                               | CLASSIFICATION OF SUBJECT MATTER   |  |  |                                       |
|----------------------------------|--|--|--|---------------------------------------|
| Int. Cl. 7;                      | F04B 43/06, 43/067, 45/053   |  | •  |                                       |
| According to I                   | International Patent Classification (IPC) or to both r   | national classification and IPC  |  |                                       |
| В.                               | FIELDS SEARCHED  |  |  |                                       |
|                                  | mentation searched (classification system followed by clander "Electronic databases searched"  | ssification symbols)   |  |                                       |
| Documentation                    | searched other than minimum documentation to the external 4B 43/06, 43/067   | nt that such documents are included  | in the fields search                           | ned                                   |
| Electronic data                  | base consulted during the international search (name of decrete the search of the sear | lata base and, where practicable, sea  | arch terms used)                               |                                       |
|                                  | DOCUMENTS CONSIDERED TO BE RELEVANT  |  |  |                                       |
| Category*                        | Citation of document, with indication, where appr  | opriate, of the relevant passages  |  | Relevant to claim No.                 |
|                                  | US 5669764 A (BEHRINGER et al.) 23 Sept  | ember 1997   |  |                                       |
| X<br>Y                           | The whole document The whole document  |  |  | 1-13, 16-18<br>14, 15                 |
| 1                                | The whole document   |  |  | ,                                     |
| X                                | US 4755111 A (COCCHI et al.) 5 July 1988 The whole document  |  | ;  | 1-13, 16-18                           |
| and the day on summer            |  |  |  |                                       |
|                                  | US 2821930 A (SMITH) 4 February 1958   |  |  | 1 12 16 10                            |
| X                                | The whole document   |  |  | 1-13, 16-18                           |
| Y                                | US 3955901 A (HAMILTON) 11 May 1976<br>Column 6, lines 55-61   |  |  | 14                                    |
| X F                              | urther documents are listed in the continuation  | of Box C X See pa  | tent family anno                               | ex                                    |
| "A" documen                      | dered to be of particular relevance column   | er document published after the internat<br>nflict with the application but cited to u<br>derlying the invention                   | nderstand the princip                          | le or theory                          |
| •                                | onal filing date or  | cument of particular relevance; the clair<br>cannot be considered to involve an invo   | ned invention cannot<br>entive step when the o | be considered novel document is taken |
| or which                         | is cited to establish the publication date of inv  | one<br>cument of particular relevance; the clair<br>volve an inventive step when the docum<br>ch documents, such combination being | ent is combined with                           | one or more other                     |
| "O" documen                      | it referring to an oral disclosure, use, exhibition  | cument member of the same patent fam   |  |                                       |
|                                  | means It published prior to the international filing date than the priority date claimed   |  |  |                                       |
| Date of the actu                 | al completion of the international search  | Date of mailing of the internation   |  |                                       |
| 1 June 2005                      |  | - 8 JUN 200  | 5  |                                       |
|                                  | ng address of the ISA/AU   | Authorized officer   |  |                                       |
| PO BOX 200, V<br>E-mail address: | PATENT OFFICE<br>WODEN ACT 2606, AUSTRALIA<br>pct@ipaustralia.gov.au   | ASANKA PERERA  |  |                                       |
| Facsimile No. (                  | (02) 6285 3929   | Telephone No : (02) 6283 237   | 3  |                                       |

International application No. PCT/NZ2005/000046

| C (Continuati | on). DOCUMENTS CONSIDERED TO BE RELEVANT   |                                     |                       |
|---------------|--|-------------------------------------|-----------------------|
| Category*     | Citation of document, with indication, where appropriate, of the relevant passages |                                     | Relevant to claim No. |
| Y             | US 3093086 A (ALTOZ et al.) 11 June 1963 Figures 2, 3 and accompanying description |                                     | 15                    |
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# **BEST AVAILABLE COPY**

Information on patent family members

International application No.

PCT/NZ2005/000046

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

|       | t Document Cited in<br>Search Report |    |          | Pate | nt Family Member |    |          |
|-------|--------------------------------------|----|----------|------|------------------|----|----------|
| US    | 5669764                              | AU | 32924/95 | CA   | 2159434          | EP | 0705978  |
|       |                                      | EP | 0822401  | IL   | 115327           | JP | 8210256  |
|       |                                      | JP | 10132732 | NO   | 953980           | US | 5691486  |
|       |                                      | US | 5788927  | US   | 5902096          | US | 5908599  |
|       |                                      | US | 5934885  |      |                  |    |          |
| US    | 4755111                              | AU | 73826/87 | DK   | 293687           | EP | 0250026  |
|       |                                      | JP | 62291483 | NO   | 872370           |    |          |
| US    | 2821930                              |    |          |      |                  |    |          |
| US    | 3955901                              | AU | 74452/74 | BE   | 821375           | CA | 1004914  |
|       |                                      | DE | 2448490  | DK   | 551874           | ES | 431237   |
|       |                                      | FR | 2248425  | GB   | 1433758          | JP | 50073205 |
| ·<br> |                                      | LU | 71163    | NL   | 7413275          | SE | 7413346  |
|       |                                      | ZA | 7405951  |      |                  |    |          |
| US    | 3093086                              |    |          |      |                  |    |          |

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX